

Supplementary Table 1: Summary of lipid-adjusted analyte measurements (percent below limit of detection, percent with ion ratio out of tolerance, coefficients of variation)

Analyte	% below LOD	% IR	Coefficient of variation	
			Intra-batch	Inter-batch
<i>o,p'</i> -DDT	1	1	13.7	164.8
<i>p,p'</i> -DDT	0	0	5.7	20.8
<i>p,p'</i> -DDE	0	0	5.8	57.8
Heptachlor epoxide	9	4	7.9	116.4
Oxychlor	15	5	10.8	44.8
<i>trans</i> -Nonachlor	0	0	10.0	27.6
β -HC	0	0	5.6	22.2
Dieldrin	11	2	9.0	152.1
γ -HC	24	0	9.9	66.3
Hexachlorobenzene	0	0	19.1	57.7
Mirex	12	5	10.0	44.5
PCB #18	0	0	8.5	43.1
PCB #28	0	0	7.6	39.1
PCB #44	5	2	10.0	37.3
PCB #49	2	3	10.1	40.8
PCB #52	0	1	8.9	35.4
PCB #66	0	0	7.0	34.2
PCB #74	0	0	7.6	26.9
PCB #87 ¹	57	7	21.3	98.0
PCB #99	0	0	6.6	27.6
PCB #101	4	3	7.6	34.1
PCB #118	0	0	4.2	24.3
PCB #128	40	7	9.3	75.0
PCB #138	0	0	4.7	20.8
PCB #146	0	2	6.3	62.8
PCB #149 ¹	49	8	8.3	89.3
PCB #151 ¹	45	9	11.5	70.3
PCB #153	0	0	5.4	19.8
PCB #156	0	2	5.5	19.8
PCB #157	14	11	6.3	104.3
PCB #167	13	10	9.1	45.5
PCB #170	0	0	4.5	18.7
PCB #172	10	13	7.0	136.2
PCB #177	0	1	5.8	24.6
PCB #178	13	8	6.4	59.1
PCB #180	0	1	5.8	20.5
PCB #183	0	4	6.2	21.1
PCB #187	0	1	6.3	18.1
PCB #189	32	6	13.2	81.5
PCB #194	0	0	6.5	16.9
PCB #195	4	9	10.0	40.7
PCB #196	0	0	6.3	23.6
PCB #201	0	1	6.7	17.7
PCB #206	0	0	6.1	17.2
PCB #209	0	0	6.7	18.3

Abbreviations: % below LOD, percent below limit of detection; % IR, percent with ion ratio out of tolerance.

¹ Analyte excluded from analysis (> 50% of measurements below LOD or with ion ratio out of tolerance).

Supplementary Table 2: Serum concentration of polychlorinated biphenyl (PCB) congeners and risk of testicular germ cell tumors.

Congener	Lipid-adjusted analyte concentration (ng/g lipid)				Odds ratios for concentration tertiles (reference group: tertile 1)						
	Cases (N=49)		Controls (N=51)		P_{Wilcoxon}^1	Tertile 1		Tertile 2		Tertile 3	
	Median	(Range)	Median	(Range)		$N_{\text{Co}} / N_{\text{Ca}}$	$N_{\text{Co}} / N_{\text{Ca}}$	OR (95% CI) ²	$N_{\text{Co}} / N_{\text{Ca}}$	OR (95% CI)	
#18	58.1	(7.5- 470.1)	61.3	(9.3- 332.7)	0.71	17 / 20	17 / 12	0.5 (0.1-1.5)	17 / 17	0.7 (0.2-2.2)	
#28	95.9	(10.9- 764.5)	100.3	(15.0- 538.6)	0.71	17 / 17	17 / 10	0.6 (0.2-2.2)	17 / 22	2.3 (0.3-15.3)	
#44	16.4	(0.4- 92.4)	16.9	(0.9- 108.3)	0.14	17 / 18	16 / 12	0.4 (0.1-2.5)	17 / 18	0.6 (0.1-3.8)	
#49	9.8	(0.5- 81.7)	10.9	(0.2- 79.2)	0.41	17 / 16	17 / 13	0.7 (0.1-3.4)	17 / 20	1.2 (0.2-7.6)	
#52	24.4	(3.7- 103.4)	23.2	(5.3- 116.9)	0.49	17 / 18	17 / 10	0.6 (0.2-1.9)	17 / 20	1.0 (0.3-3.5)	
#66	22.5	(2.4- 120.2)	16.7	(5.7- 115.6)	0.44	17 / 12	17 / 18	2.1 (0.6-7.3)	17 / 19	2.8 (0.5-14.4)	
#74	55.7	(27.1- 318.3)	52.2	(26.1- 268.2)	0.46	17 / 10	17 / 23	3.4 (0.9-12.1)	17 / 16	2.3 (0.6-8.0)	
#99	68.5	(35.0- 408.4)	62.6	(24.2- 183.4)	0.04	17 / 9	17 / 19	2.2 (0.7-7.3)	17 / 21	2.2 (0.8-5.9)	
#101	14.4	(0.6- 51.6)	13.6	(0.8- 49.6)	0.42	17 / 15	16 / 23	1.7 (0.5-5.5)	17 / 10	0.8 (0.2-2.7)	
#118	106.5	(43.9- 476.6)	89.1	(31.9- 242.2)	0.10	17 / 11	17 / 14	1.6 (0.5-5.1)	17 / 24	3.1 (0.9-10.6)	
#128	3.9	(0.1- 57.7)	2.5	(0.1- 15.4)	0.69	16 / 17	16 / 11	0.8 (0.2-2.3)	16 / 17	1.0 (0.3-3.2)	
#138	199.6	(87.2- 891.7)	177.3	(79.9- 394.5)	0.06	17 / 15	17 / 10	0.7 (0.3-2.0)	17 / 24	1.8 (0.6-5.1)	
#146	50.3	(19.6- 269.9)	48.8	(19.6- 112.9)	0.26	17 / 14	17 / 10	0.7 (0.2-2.2)	17 / 23	2.0 (0.7-5.6)	
#153	431.5	(166.0-1922.5)	399.3	(187.2- 860.7)	0.10	17 / 16	17 / 14	0.9 (0.3-2.5)	17 / 19	1.2 (0.4-3.4)	
#156	33.7	(14.0- 180.6)	32.2	(13.2- 88.1)	0.45	17 / 14	17 / 15	1.1 (0.4-3.0)	17 / 18	1.3 (0.5-3.9)	
#157	5.2	(0.1- 33.9)	4.9	(0.1- 15.4)	0.31	15 / 13	15 / 14	1.3 (0.4-4.8)	15 / 19	1.7 (0.4-7.2)	
#167	11.2	(0.5- 45.0)	9.1	(0.1- 24.3)	0.02	16 / 10	16 / 13	2.2 (0.5-9.2)	16 / 19	4.4 (1.0-19.8)	
#170	95.6	(39.3- 520.1)	91.7	(38.3- 198.3)	0.39	17 / 16	17 / 13	0.8 (0.3-2.1)	17 / 20	1.2 (0.5-2.9)	
#172	12.4	(0.3- 154.8)	11.9	(0.6- 31.3)	0.90	15 / 21	14 / 4	0.1 (0.01-0.9)	14 / 19	1.0 (0.3-3.2)	
#177	19.4	(9.6- 84.2)	16.8	(5.4- 48.8)	0.19	17 / 9	17 / 16	1.7 (0.6-4.8)	17 / 23	2.4 (0.9-6.3)	
#178	12.8	(0.4- 100.5)	13.8	(0.4- 35.2)	0.24	15 / 20	15 / 14	0.6 (0.2-1.8)	14 / 15	0.6 (0.2-1.8)	
#180	228.2	(87.6-1399.2)	213.2	(88.7- 534.2)	0.41	17 / 16	17 / 11	0.6 (0.2-1.8)	17 / 21	1.2 (0.4-3.0)	
#183	30.4	(13.2- 151.5)	27.6	(11.1- 59.0)	0.07	17 / 14	16 / 15	1.0 (0.4-2.6)	16 / 18	1.3 (0.5-3.5)	
#187	74.1	(31.0- 436.2)	70.3	(28.9- 217.8)	0.19	17 / 14	16 / 15	1.1 (0.4-2.6)	17 / 20	1.3 (0.5-3.4)	
#189	2.9	(0.1- 23.3)	2.1	(0.1- 7.0)	0.13	16 / 13	16 / 16	2.1 (0.5-9.8)	16 / 19	1.6 (0.5-5.8)	
#194	28.0	(10.8- 275.1)	26.1	(10.4- 61.9)	0.43	17 / 15	17 / 13	0.9 (0.4-2.2)	17 / 21	1.3 (0.6-3.0)	
#195	7.9	(0.3- 43.4)	6.9	(0.3- 17.6)	0.19	16 / 10	16 / 20	1.9 (0.7-5.0)	15 / 15	1.7 (0.6-4.6)	
#196	14.0	(5.9- 103.4)	13.0	(5.3- 27.9)	0.31	17 / 13	17 / 15	1.1 (0.4-2.7)	17 / 21	1.4 (0.6-3.2)	
#201	23.3	(9.2- 221.9)	22.8	(7.7- 66.3)	0.38	17 / 14	16 / 13	0.9 (0.4-2.3)	17 / 22	1.5 (0.6-3.6)	
#206	9.2	(3.8- 59.6)	8.6	(3.2- 20.5)	0.36	17 / 16	17 / 12	0.7 (0.3-1.9)	17 / 21	1.3 (0.6-3.1)	
#209	6.7	(2.4- 28.6)	6.6	(2.8- 18.8)	0.61	17 / 14	17 / 17	1.2 (0.4-3.5)	17 / 18	1.3 (0.5-3.5)	

Abbreviations: N_{Co} , number of controls; N_{Ca} , number of cases; OR, odds ratio; CI, confidence interval.

Note: Statistically significant ($P < 0.05$) results in bold-face type.

¹ P -value from Wilcoxon signed-rank test of matched case-control sets.

²Odds ratio and 95% confidence intervals calculated from conditional logistic regression of matched case-control sets.

Supplementary Table 3: Serum concentration of analyzed organochlorine compounds and risk of seminoma tumors.

Analyte	Median lipid-adjusted Analyte concentration (ng/g lipid)		P_{Wilcoxon}^2	Odds ratios for concentration tertiles (reference group: tertile 1) ¹					
	Seminoma (N=34)	Controls (N=34)		Tertile 1 N _{Co} / N _{Ca}	Tertile 2 N _{Co} / N _{Ca}	OR (95% CI) ³	Tertile 3 N _{Co} / N _{Ca}	OR (95% CI)	
<i>DDT metabolites:</i>									
<i>o,p'</i> -DDT	19.9	15.5	0.15	12 / 14	13 / 5	0.2 (0.03-1.3)	9 / 14	1.1 (0.2-5.1)	
<i>p,p'</i> -DDT	205.9	215.5	0.56	13 / 9	9 / 15	3.7 (0.7-18.6)	12 / 10	1.5 (0.3-7.5)	
<i>p,p'</i> -DDE	2100.4	1768.2	0.06	12 / 10	13 / 10	1.0 (0.3-3.8)	9 / 14	2.2 (0.5-8.7)	
<i>Chlordanes:</i>									
Heptachlor epoxide	11.3	11.9	0.87	9 / 10	12 / 12	0.7 (0.2-3.4)	11 / 12	0.8 (0.1-4.2)	
Oxychlor	14.3	11.8	0.006	10 / 6	13 / 15	3.2 (0.6-15.7)	9 / 13	5.1 (0.7-36.8)	
<i>trans</i> -Nonachlor	22.6	19.6	0.21	13 / 9	10 / 15	3.7 (0.7-19.0)	11 / 10	1.6 (0.4-6.0)	
Total Chlordanes	45.4	45.2	0.13	11 / 9	13 / 13	1.4 (0.3-5.5)	10 / 12	1.6 (0.4-6.6)	
<i>Other insecticides:</i>									
β -HC	148.1	136.9	0.38	11 / 9	11 / 8	1.0 (0.3-3.5)	12 / 17	2.9 (0.6-13.6)	
Dieldrin	54.1	51.1	0.76	11 / 9	12 / 15	1.8 (0.4-7.6)	11 / 9	1.1 (0.2-6.8)	
γ -HC	6.4	6.2	0.83	13 / 11	10 / 11	1.4 (0.4-5.4)	11 / 12	1.7 (0.3-9.8)	
HCB	685.8	543.7	0.53	11 / 10	11 / 8	1.0 (0.2-4.9)	12 / 16	3.0 (0.4-22.0)	
Mirex	1.9	1.5	0.18	11 / 12	10 / 6	0.5 (0.1-2.3)	12 / 14	1.1 (0.4-3.5)	
<i>PCB congeners:</i>									
#18	45.6	67.5	0.18	11 / 17	8 / 6	0.4 (0.1-1.7)	15 / 11	0.3 (0.1-1.3)	
#28	98.5	88.1	0.67	12 / 12	9 / 7	0.8 (0.2-3.5)	13 / 15	2.7 (0.2-30.9)	
#44	15.0	17.0	0.003	9 / 13	9 / 9	0.3 (0.03-3.0)	15 / 12	0.2 (0.01-2.0)	
#49	9.5	11.6	0.03	10 / 12	10 / 8	0.3 (0.02-3.0)	14 / 14	0.3 (0.02-4.7)	
#52	23.1	26.8	0.03	10 / 14	10 / 6	0.3 (0.05-1.6)	14 / 14	0.4 (0.07-2.3)	
#66	22.7	19.3	0.83	13 / 8	6 / 12	4.7 (0.9-25.5)	15 / 14	2.2 (0.3-16.6)	
#74	58.9	54.3	0.36	11 / 7	11 / 14	2.8 (0.6-13.4)	12 / 13	2.3 (0.5-9.8)	
#99	75.4	63.5	0.01	12 / 5	10 / 12	5.6 (0.9-36.3)	12 / 17	4.4 (1.0-20.5)	
#101	14.3	15.3	0.31	11 / 11	10 / 13	1.2 (0.3-5.3)	12 / 9	0.8 (0.2-3.8)	
#118	104.5	88.7	0.09	11 / 9	14 / 9	1.0 (0.3-4.0)	9 / 16	2.4 (0.6-9.9)	
#128	4.8	2.9	0.20	11 / 9	13 / 7	0.8 (0.2-3.2)	8 / 14	2.2 (0.5-9.3)	
#138	203.3	177.2	0.02	11 / 9	12 / 8	0.9 (0.3-3.0)	11 / 17	2.1 (0.6-7.2)	
#146	54.8	48.4	0.12	13 / 10	10 / 6	0.6 (0.1-2.8)	11 / 18	2.4 (0.7-8.1)	
#153	439.3	395.9	0.04	12 / 10	9 / 11	1.4 (0.4-4.7)	13 / 13	1.2 (0.3-4.3)	
#156	35.2	34.7	0.40	10 / 8	12 / 12	1.4 (0.4-4.8)	12 / 13	1.4 (0.4-5.3)	
#157	5.5	5.2	0.25	8 / 8	10 / 9	0.9 (0.2-4.9)	11 / 14	1.1 (0.2-6.9)	
#167	11.9	8.9	0.008	11 / 6	12 / 8	2.3 (0.4-13.4)	10 / 15	6.7 (1.1-42.9)	
#170	102.5	95.0	0.25	12 / 10	11 / 7	0.8 (0.2-2.7)	11 / 17	1.9 (0.6-5.9)	
#172	12.4	12.1	0.91	11 / 14	9 / 3	0.2 (0.02-1.3)	8 / 13	1.3 (0.4-4.7)	
#177	20.0	16.6	0.15	11 / 7	14 / 10	1.0 (0.3-3.3)	9 / 17	2.6 (0.8-8.6)	
#178	13.6	14.5	0.33	8 / 12	12 / 11	0.7 (0.2-2.2)	9 / 11	0.5 (0.1-2.3)	
#180	242.3	221.6	0.31	11 / 10	12 / 7	0.7 (0.2-2.4)	11 / 17	1.9 (0.6-6.7)	
#183	31.9	27.4	0.01	10 / 8	14 / 11	1.0 (0.3-3.5)	8 / 14	2.9 (0.6-13.7)	
#187	79.5	69.7	0.09	11 / 9	10 / 9	1.0 (0.4-3.0)	12 / 16	1.6 (0.5-5.1)	
#189	3.1	2.8	0.17	10 / 8	10 / 10	2.2 (0.3-18.9)	12 / 15	1.6 (0.4-6.8)	
#194	29.9	27.5	0.28	10 / 11	14 / 6	0.5 (0.1-1.5)	10 / 17	1.6 (0.5-4.8)	
#195	8.3	7.1	0.04	9 / 6	13 / 13	2.0 (0.5-7.2)	8 / 13	3.0 (0.8-11.7)	
#196	14.6	13.2	0.17	10 / 9	15 / 9	0.7 (0.2-2.2)	9 / 16	1.7 (0.6-5.3)	
#201	25.1	23.7	0.30	11 / 11	10 / 6	0.6 (0.2-2.0)	12 / 17	1.6 (0.5-4.9)	
#206	9.7	8.5	0.25	11 / 10	15 / 9	0.7 (0.3-2.0)	8 / 15	2.6 (0.7-9.4)	
#209	6.9	6.6	0.38	14 / 11	10 / 10	1.3 (0.4-4.4)	10 / 13	1.8 (0.5-6.0)	

Abbreviations: N_{Co}, number of controls; N_{Ca}, number of cases; OR, odds ratio; CI, confidence interval.Note: Statistically significant ($P < 0.05$) results in bold-face type.¹Category cut-points are the same as those used in Tables 1 and 2.²P-value from Wilcoxon signed-rank test of matched case-control sets.³Odds ratio and 95% confidence intervals calculated from conditional logistic regression of matched case-control sets.